|  | Drug | Concentration | Dosage-1100lb/ 500kg cattle | Contraindications/uses | Withdrawal time |
| --- | --- | --- | --- | --- | --- |
| Local Anesthetic | Lidocaine HCl | 20mg/ml | For field blocking: maximum 200ml of lidocaine 2%  Nerve block, lidocaine -dosage -1mg/kg,  conc-2%(20mg/ml),  weight 500kg  Volume =  WT X Dosage/  conc  = 25 ml  TOXIC DOSE-250ml  400 x 1/2  -It is suitable for performing surgery on standing animals, accordingly injuries associating casting and prolonged  recumbency can be avoided | Lidocaine HCl is contraindicated in patients with a known history of hypersensitivity to local anesthetics of the amide type. | Meat: 28 days |
| Sedative | Xylazine | 20 mg/ml | xylazine(IM)-  Dosage- 0.05mg|Kg, conc-20mg/ml  Weight-500kg  Volume=  Dose  WT \* Dosage/conc = 1.25 ml | Should not be used in   * Renal or hepatic failure | Withdrawal period:  Meat: 5 days  For milk: 4 days |
| Analgesic/  NSAIDs | Banamine (Flunixin meglumine) | 50mg/ml | Flunixin(IV) - Dosge - 1.1mg/kg ,conc- 50mg/ml  , Weight-500kg  Volume =  WT X Dosage/conc= 11ml | Should not be used   * in animals that have shown prior hypersensitivity reactions. * the IM route; should only be used when the IV route is not feasible * Do not use in horses | Withdrawal times:  - For meat: Cattle: 14 days  Swine: 24 days  For milk- Cattle:  2 days |
| Antibiotic  (Broad spectrum) long acting antipsychotic | Penstrep 400  (Procaine penicillin & Dihydrostreptomycin) | 200,000 IU/ml | penstrep(IM)-dosage-20,000mm/kg, conc -200,000mm,weight 500kg  Volume =  WT X Dosage/conc= 50 ml  NB: more than 5ml should not be administered at a singular site in calves. 20ml was given per site in gluteal muscle. | Should not be used in   * Animals hypersensitive to penicillins, procaine and/or aminoglycosides * Animals with impaired renal function * Concurrent administration of tetracyclines chloramphenicol, macrolides and lincosamides. | Withdrawal times:  -For kidneys: 45 days.  - For meat-21-30days  - For milk  3-5 days. |
| General anesthetic | Ketamine | 100mg/ml | ketamine(IV)- dose=1.0mg/kg  Weight=500kg  Conc=100mg/ml  (1.0mg/kg)(500kg)/100mg/ml  =5ml | Should not be administered with lungworm medication.  For parenteral administration in dogs, cats, horses, cattle, goals and swine | withdrawal period:  Meat: 16 days  Otherwise: 0days |
| Intra-op fluids (can be administered if fluid loss is extreme/emergent) | 0.9%Saline (use 1L bag) | 0.9% at 250ml | Calculated of Drip Rate in drops per sec  - (ml/min x drip factor)/60 = drops/sec  250 × 20 = 83 / 60 = 1.4 = 3 drops/2sec  60 | crystalloid that is normal saline which is used in the management and treatment of dehydration (e.g., hypovolemia, shock), metabolic alkalosis in the presence of fluid loss, and mild sodium depletion through bodily fluid such as blood | Withdrawal period: 0days |
| Tolazoline(xylazine reversal)(for emergency use)(2-4x sylazine dose) | 100mg/ml | 4 X xvlazine dose IV  Eg. 0.1mg/kg | V = (0.1×500)/100 = 0.5mls | Reversal of xylazine should not be attempted until sufficient time has elapsed to allow the ketamine anesthesia if used to be resolved (15–20 minutes post-IV administration). | Withdrawal period  Meat:8 days  Milk: 48 hours |
| Atropine(emergency use) | 0.54 mg/ml | 0.04 mg/kg | V = (0.04 mg/kg)(500kg) / 0.54  mg/ml  V = 37.03 ml (= 2mg/500kg) | Use if  bradycardia <30bmp | withdrawal period:  Meat: 14 days  Milk:3 days |
| Epinephrine(emergency use) | 1mg/kg  (1:1000) | 0.02mg/kg | V = (0.02 mg/kg)(500 kg) / 1  mg/ml  V= 10 ml | anaphylactic rxns  Do not use on extremities it’ll block blood supply and cause sloughing | No withdrawal period |
| tetanus anti-toxin Behring | 1mg/kg | 10-50,000units(cattle)  3000-15000units for small ruminants | (500)(1)/(50,000)  =0.01 ml | * Antitoxin provides immediate passive immunity lasting 7 - 14 days. * For use as an aid in the prevention and treatment of tetanus in cattle, swine, sheep and goats. Recommended whenever a non-immunized animal, or one whose status is unknown, suffers a deep penetrating wound that has or may become contaminated with soil. Provides quick, short-term protection. Also ideal following castration and docking. * Anaphylactoid reactions may occur. Antidote : Epinephrine. | withdrawal period   * meat and milk 21 days |
| Ivermectin | 0.08% orally and 1% injectable | 200µg/kg | oral conc-0.8mg/ml  WT X Dosage/  conc  =(500)(0.8)/200  =2mg/kg  Injectable conc-10mg/ml  WT X Dosage/  conc  =(500)(10)/200  =25mg/kg | * Oral Ivermectin is 0.08% and 1% for the injectable formulation, both can be used as Anti-myiasis/anti-parasitic | withdrawal period   * meat 25 days * Milk approx 16 days |
| Oxytetracycline (Broad spectrum antibiotic) | injectable or topical | 200mg/ml | Dosage =20mg/kg  Conc=200mg/ml  =(500)(20)/(200)  =50mg/kg | * **Cattle:** Oxytetracycline Injection 200 is indicated in the treatment of pneumonia and shipping fever complex associated with *Pasteurella* spp. and *Haemophilus* spp.; infectious bovine keratoconjunctivitis (pink eye) caused by *Moraxella bovis;* foot rot and diphtheria caused by *Fusobacterium necrophorum;* bacterial enteritis (scours) caused by *Escherichia coli;* wooden tongue caused by *Actinobacillus lignieresii;* leptospirosis caused by *Leptospira pomona;* and wound infections and acute metritis caused by strains of staphylococci and streptococci organisms sensitive to oxytetracycline similar for small ruminants. | Withdrawal period   * meat 28 days * Milk 96 hours/ 4 days |
| Chlorohexidine (antiseptic) | 1.0% concentration | topical | - | Chlorhexidine provides superior skin decontamination in foot and ankle surgeryantiseptic agent, with both antibacterial and antifungal properties. It is a widely used broad-spectrum biocide, killing micro-organisms through cell membrane disruption | - |
| Iodine (antiseptic) | 5% concentration | topical | - | Reduction in the incidence of digital dermatitis, and hoof lesions are smaller used on the sole of the hoof to prevent and treat fungal and bacterial infections. It also hardens the hoof great antiseptic. | - |

Observe animals for the following 7 days and treat any complications that arise.

Ketamine + Xylazine for breakthrough = half sedation dose (0.13ml xylazine + ketamine 0.5ml) PRN /2

Rate of Fluid delivery = 5

Drop factor = 20 drops/ml

Atipamazole or yohimbine are more commonly used than tolazoline as a xylazine antagonist and can be used as xylazine reversal in cases of emergencies.

